

# STATE OF WASHINGTON DEPARTMENT OF ECOLOGY

## TRUST WATER RIGHT REPORT OF EXAMINATION

Change of Purpose of Use to Instream Flow and Water Banking WRTS File No.: CS4-00365CTCLsb5

PRIORITY DATE	CLAIM NO	NO PE		CERTIFICATE NO	
une 5, 1886 Acquavella Court Claim No. 00365		0365 N/A		N/A	
A CAN ALL DATE OF	August 1				
NAME OF PARTY CONVEYING RIGI	HT TO TRUST WATER RIGHTS PROGRAM	15. 1627 T 3		No. of the second second	
Green Canyon LLC				and the state of the state of	
ADDRESS/STREET		CITY/STATE		ZIP CODE .	
206 West First Street		Cle Elum, WA		98922-1108	
	TRUST WATER R	IGHT ATTRI	BUTES		
SOURCE					
Yakima River					
TRIBUTARY OF (IF SURFACE WATE	ERS)				
N/A					
MAXIMUM CUBIC FEET PER SECON	ND MAXIMUM GALLONS P	ER MINUTE	MAX	KIMUM ACRE FEET PER YEAR	
0.67	N/A		120	).9	
QUANTITY, TYPE OF USE, PERIOD (	OF USE		Right on the last		

**Primary Reach\*** 

0.67 cubic feet per second (cfs), 120.9 acre-feet per year (ac-ft/yr) for the purpose of instream flow and water banking from April 20 through September 30.

#### Secondary Reach\*

**Instream Flow in Secondary Reach** 

	May	June	July	August	Sept.	Total
Avg. Qi (cfs)	0.02	0.29	0.47	0.41	0.28	
Qa (ac-ft)	1.4	17.2	28.7	25.2	16.5	89.0

<sup>\*</sup>Only the portion of the right which is not being used as mitigation will be eligible for protection.

#### HISTORIC POINT OF DIVERSION OR WITHDRAWAL APPROXIMATE LOCATION OF HISTORIC DIVERSION 750 feet south and 1,150 feet east from the north quarter corner of Section 35, T. 20 N., R. 15 E.W.M. LOCATED WITHIN (SMALLEST LEGAL SUBDIVISION) SECTION TOWNSHIP COUNTY RANGE WRIA SE1/4NW1/4NE1/4 35 20 N. 15 E.W.M. 39 Kittitas PARCEL NUMBER LATITUDE LONGITUDE DATUM 754735 -120.9347.19 NAD 27 AFFECTED REACHES - DESCRIPTION OF PLACE OF USE [See Attachment 1 for map of the trust water right location]

PLACE OF USE: Yakima River

**Primary Reach**: Begins at a point approximately 750 feet south and 1,150 feet east from the north quarter corner of Section 35, T. 20 N., R. 15 E.W.M. (approximately Yakima River Mile 181.5).

**Secondary Reach**: Begins at a point approximately 1,550 feet north and 740 feet west from the SE¼ of Section 31, T. 20 N., R. 16 E.W.M. (approximately Yakima River Mile 179).

TRUST WATER RIGHT TERM					
BEGIN DATE	END DATE N/A				
Permanent	A VAA				



## PORTION OF WATER RIGHT NOT PLACED INTO TRUST WRTS File No.: CS4-00365CTCLsb5

PRIORITY DATE	CLAIM NO.			PI	PERMIT NO. CERTIFICATE NO.			TE NO.
June 5, 1886	Acquavella Court Claim No. 00365			N	N/A		N/A	
AME				-				
Estate of Hazel and	Bernard Henshaw			*				
DDRESS/STREET		Sales Sales	CITY/STA	TE	- 6		ZIP CO	DDE
O Box 234			Cle Elu	ım			9892	22
		* ****			*	The State of the		- 4
	28 33 7	WATE	R RIGHT AT	TRIBUTES	S		*	
OURCE	- 2 - 2			Taylor .				14 2
'akima River								
RIBUTARY OF (IF SURFAC	!E WATERS)			5+				
J/A					*			
IAXIMUM CUBIC FEET PEI	R SECOND	MAXIMUM GALL	ONS PER MINU	JTE		MAXIMUM ACRE	FEET PER YEAR	3
.85		N/A				48.34		
UANTITY, TYPE OF USE, I	PERIOD OF USE							
	rigation of 15.5 acre				30.			
.24 acre-feet for sto	ock water from Apr	ril 20 through S	September 3	30.				. 1 . 4
						1		
		LOCATION O	F DIVERSIC	ON/WITHD	RAWAI			
	OF DIVERSION—WITHDR							
T	,150 feet east from		ter corner o	of Section			W.M.	
OCATED WITHIN (SMALL	EST LEGAL SUBDIVISION	) SECTIO	)N (	TOWNSHIP	RANG	GE [E. or W.] W.M.	WRIA	COUNTY
E'4NW'4NE'4		. 35		20 N.	15 I	E.W.M.	39	Kittitas
ARCEL NUMBER		LATITU	UDE		LONG	GITUDE	DATUM	
54735		-120.	.93		47.1	19	NAD 27	
V	to the state of the same	.35 . ·	*		542	, -, -, -, -, -, -, -, -, -, -, -, -, -,		100
		RECORD	ED PLATTE	ED PROPEI	RTY			
TO		BLOCK				NAME OF PLAT OR	ADDITION)	
		(57) 67						-
		ESCRIPTION OF					n	
	LEGAL DE						wal]	
	See Attachment 2	2 for a map of the	place of use	and point(s	) of dive	rsion or withdra		otion 20
S½S½ of Governme	[See Attachment 2	2 for a map of the	place of use	and point(s	) of dive	rsion or withdra		etion 30,
S½S½ of Governme	[See Attachment 2	2 for a map of the	place of use	and point(s	) of dive	rsion or withdra		etion 30,
S½S½ of Governme	[See Attachment 2	2 for a map of the	e place of use	and point(s	e) of dive	rsion or withdra		ction 30,
S½S½ of Governme Γ. 20 N., R. 16 E.W	ent Lot 3, Governm	2 for a map of the nent Lot 4 and to	the SE'/4SW	and point(s	PT the	rsion or withdra	4, All in Sec	
S½S½ of Governme F. 20 N., R. 16 E.W The Henshaw land in the Strict River to the Subject	[See Attachment 2	DESCRIP  nrough the You s pumped from	the SE1/4SW  TION OF W.  unger Ditch,	ATER SYS	PT the  TEM  ows appeither a	rsion or withdra	4, All in Sec	the Yakima
S½S½ of Governme The Henshaw land River to the subject which is located near Approximately 13 a	ent Lot 3, Governm 7.M.  is supplied water the property. Water is	DESCRIPTORUSH TO BE A STATE OF THE STATE OF	the SE1/4SW TION OF Wanger Ditch, Younger Daries of place	ATER SYST, which flooditch with the of use (I	PT the  TEM  Dws appleither a POU).	SE'4SE'4SW' oroximately on	4, All in Secential et al. (HP) or 1	the Yakima 5 HP pump
The Henshaw land River to the subject which is located near Approximately 13 a Approximately 2 across the Henshaw stock	ent Lot 3, Government 2.  is supplied water the property. Water is ar the western and eacres of pasture and	DESCRIPTORY  DESCR	the SE1/4SW TION OF WARRENGER Ditch, Younger Ditch, Younger Daries of place ated with a red with dor	ATER SYS', which floor pitch with the of use (I mixture of mestic springly and with the control of the control	PT the  TEM  ows appeither a POU).  of wheel inklers.	SE'4SE'4SW'	4, All in Secentle mile from the er (HP) or 1 et, and big g	the Yakima 5 HP pump gun sprinkler
S½S½ of Government of Country of Government of Country of Government of Country of Country of Government of Country of Government of Government of Country of Government of Country of Government of G	is supplied water the property. Water is ar the western and cares of pasture and cares of lawn and gard drink directly from	DESCRIPTORY  DESCR	the SE1/4SW TION OF WARRENGER Ditch, Younger Ditch, Younger Daries of place ated with a red with dor	ATER SYS', which floor pitch with the of use (I mixture of mestic springly and with the control of the control	PT the  TEM  ows appeither a POU).  of wheel inklers.	SE'4SE'4SW'	4, All in Secentle mile from the er (HP) or 1 et, and big g	the Yakima 5 HP pump gun sprinklers
S½S½ of Government of C. 20 N., R. 16 E.W  The Henshaw land is River to the subject which is located new Approximately 13 at Approximately 2 at The Henshaw stock	is supplied water the property. Water is ar the western and cares of pasture and cares of lawn and gard drink directly from	DESCRIPTORY  DESCR	the SE1/4SW TION OF WARRENGER Ditch, Younger Ditch, Younger Daries of place ated with a red with dor	ATER SYS' , which floor pitch with the of use (I mixture of mestic springly pond when the ditce	PT the  TEM  ows appeither a POU).  of wheel inklers.  nich is oh is not	SE'4SE'4SW'	4, All in Secentle mile from the er (HP) or 1 et, and big g	the Yakima 5 HP pump gun sprinkler
The Henshaw land River to the subject which is located new Approximately 13 a Approximately 2 ac The Henshaw stock	ent Lot 3, Government 2.  is supplied water the property. Water is ar the western and cares of pasture and cares of lawn and gard drink directly from drink from troughs	DESCRIPTORY  DESCR	the SE1/4SW TION OF WARRENT DITCH, Younger Ditch, Y	ATER SYS  which floe Ditch with the of use (I mixture of the mestic springly and the ditce see the d	TEM  ows appeither a POU).  of wheel inklers.  nich is oh is not	SE'4SE'4SW'	4, All in Secentle mile from er (HP) or 1 et, and big get ch during the	the Yakima 5 HP pump gun sprinklers ne authorized



#### **PROVISIONS**

### Provisions related to the Trust Water Right

Department of Ecology personnel, upon presentation of proper credentials, shall have access at reasonable times, to the project location, and to inspect at reasonable times wells or diversions and associated distribution systems for compliance with water law.

#### Provisions Related to the Portion of the Water Right Not Placed Into Trust

Water use confirmed under Court Claim No. 00365 shall be reduced to 0.83 cfs and 48.1 ac-ft/yr for the irrigation of 15.5 acres and 0.02 cfs and 0.24 ac-ft/yr for stock water, all from April 20 through September 20.

The remainder of Court Claim No. 00365 shall comply with the *Order Requiring Metering Measuring, and Reporting Requirements, All Subbasins (1-31) in Benton, Kittitas, and Yakima Counties* entered September 15, 2005, in the Yakima Adjudication. A copy of the order is included with hard copies. The order may be viewed at the following web site: <a href="http://www.ecy.wa.gov/programs/wr/measuring/images/pdf/order772014845.pdf">http://www.ecy.wa.gov/programs/wr/measuring/images/pdf/order772014845.pdf</a>.

Water use data shall be recorded monthly and maintained by the property owner for a minimum of five years. The maximum rate of diversion/withdrawal and the annual total volume shall be submitted to the Department of Ecology by January 31st of each calendar year.

Department of Ecology personnel, upon presentation of proper credentials, shall have access at reasonable times, to the records of water use that are kept to meet the above provisions, and to inspect at reasonable times any measuring device used to meet the above provisions.

The intake(s) shall be screened in accordance with Department of Fish and Wildlife screening criteria (pursuant to RCW 77.57.010, RCW 77.57.070, and RCW 77.57.040). Contact the Department of Fish and Wildlife, 600 Capitol Way N, Olympia, WA 98501-1091. Attention: Habitat Program. Phone (360) 902-2534 if you have questions about screening criteria. <a href="http://www.wdfw.wa.gov/reg/regions.htm">http://www.wdfw.wa.gov/reg/regions.htm</a>

Department of Ecology personnel, upon presentation of proper credentials, shall have access at reasonable times, to the project location, and to inspect at reasonable times wells or diversions and associated distribution systems for compliance with water law.

## FINDINGS OF FACT AND ORDER

Upon reviewing the investigator's report, I find all facts relevant and material to the subject application have been thoroughly investigated. Furthermore, I find the change of water right as recommended will not be detrimental to existing rights or detrimental to the public interest.

Therefore, I ORDER the requested change of place and purpose of use under Trust Water Right Application No. CS4-00365CTCLsb5, be approved subject to existing rights and the provisions specified above.

This Decision may be appealed pursuant to RCW 34.05.514(3), RCW 90.03.210(2), and Pretrial Order No. 12 entered in *State of Washington, Department of Ecology v. James Acquavella, et al.*, Yakima County Superior Court No. 77-2-01484-5 (the general adjudication of surface water rights in the Yakima River Basin). The person to whom this Decision is issued, if he or she wishes to file an appeal, must file the notice of appeal with the Yakima County Superior Court within thirty (30) days of receipt of this Decision. Appeals must be filed with the Superior Court Clerk's Office, Yakima County Superior Court, 128 North 2<sup>nd</sup> Street, Yakima WA 98901, RE: Yakima River Adjudication. Appeals must be served in accordance with Pretrial Order No. 12, Section III ("Appeals Procedures"). The content of the notice of appeal must conform to RCW 34.05.546. Specifically, the notice of appeal must include:

The name and mailing address of the appellant;

Name and address of the appellant's attorney, if any;

The name and address of the Department of Ecology;

The specific application number of the decision being appealed;

A copy of the decision;

A brief explanation of Ecology's decision;

Identification of persons who were parties in any adjudicative proceedings that led to Ecology's decision;

Facts that demonstrate the appellant is entitled to obtain judicial review;

The appellant's reasons for believing that relief should be granted; and

A request for relief, specifying the type and extent of relief requested.

The "parties of record" who must be served with copies of the notice of appeal under RCW 34.05.542(3) are limited to the applicant of the decision subject to appeal, Ecology and the Office of the Attorney General.

All others receiving notice of this Decision, who wish to file an appeal, must file the appeal with the Yakima County Superior Court within the thirty (30) days of the date the Order was mailed. The appeal must be filed in the same manner as described above.

Mark Schuppe, Section Manager Water Resources Program/CRO

#### **INVESTIGATOR'S REPORT**

#### **BACKGROUND**

### **Description and Purpose of Proposed Change**

On July 16, 2009, Dave Blanchard of Northland Resources and Green Canyon LLC, applied to place a portion of Court Claim No. 00365 into the State Trust Water Right Program. This application along with four other Trust Water Right Applications (CS4-02223CTCLsb2@1, CS4-01676(B)CTCL@1, CS4-01296CTCsb5@1(A), CS4-01296CTCLsb5@1(B)) were submitted by Northland Resources and associated LLC's for the purposes of water banking in order to offset the consumptive use associated with new groundwater uses.

#### Attributes of the Court Claim No. 00365 and Proposed Change

Table 1
Summary of Existing Attributes and Proposed Changes to Water Right No. CS4-00365CTCLsb5

Attributes	Documented	Proposed		
Name	The Estate of Hazel and Bernard Henshaw	N/A		
Priority Date   Date of Application for Change	Priority Date - June 5, 1886	Application Date - July 16, 2009		
Instantaneous Quantity  1.5 cfs for irrigation 0.02 cfs for stock water 0.3 cfs for conveyance loss		0.67 cfs In Trust 0.83 for irrigation 0.02 cfs for stock water 0.3 cfs for conveyance loss		
Annual Quantity  450 acre-feet for irrigation 3 acre-feet for stock water		120.9 acre-feet In trust 48.1 acre-feet for irrigation 0.24 acre-feet for stock water		
Source	Yakima River	No Change		
Point of Diversion/Withdrawal	750 feet south and 1,150 feet east from the north quarter corner of Section 35, T. 20 N., R. 15 E.W.M.	No Change		
Purpose of Use Irrigation of 75 acres Stock water		In Trust Irrigation of 15.5 acres Stock water		
Period of Use	April 20 through September 30	No Change		
Place of Use	S½S½ of Government Lot 3, Government Lot 4 and the SE¼SW¼ EXCEPT the SE¼SE¼SW¼, All in Section 30, T. 20 N., R. 16 E.W.M.	Trust Portion: See Primary and Secondary Reach descriptions on page 1 Non-Trust Portion: No Change		

## Legal Requirements for Proposed Change

The following is a list of requirements that must be met prior to authorizing the proposed change in Water Right Change Application No. CS4-00365CTCL.

## Public Notice

Notice was published by the applicant in *The Daily Record* of Ellensburg for two consecutive weeks, commencing on October 24, 2009, and October 31, 2009.

#### State Environmental Policy Act (SEPA)

This application is categorically exempt from the provisions of the SEPA, due to the fact that the water quantities proposed for change are proposed for less than 1.0 cfs. While the projects relying on this Trust Water Right Application are not exempt from SEPA, Ecology may proceed with exempt aspects of the proposals so long as the requirements of WAC 197-11-070 are met. Those requirements being: the agency actions will not have an adverse environmental impact; or, if such action would not limit the choice for reasonable alternatives. Issuing this trust water right will not result in an adverse environmental impact and will not limit the choice for reasonable alternatives.

#### • Water Resources Statutes and Case Law

- RCW 90.03.380(5)(b) states that applications relating to existing surface or ground water rights may be processed and decisions on them rendered independently of processing and rendering decisions on pending applications for new water rights within the same source of supply without regard to the date of filing of the pending applications for new water rights.
- RCW 90.38.040(1) states that all trust water rights acquired by the Department of Ecology (Ecology) shall be placed in the Yakima River Basin Trust Water Right Program to be managed by Ecology. Ecology shall issue a Certificate of Water Right in the name of the state of Washington for each trust water right it acquires.
- RCW 90.42.100(1) states that Ecology is authorized to use the Trust Water Right Program in the Yakima River basin for water banking purposes.
- RCW 90.42.100(2)(a) states that water banking may be used to mitigate for any beneficial use under chapter 90.03, 90.44. or 90.54 RCW, consistent with any terms and conditions established by the transferor, except that return flows from water rights authorized in whole or in part for any purpose shall remain available as part of the Yakima basin's total water supply available and to satisfy existing rights for other downstream uses and users.
- RCW 90.42.100(2)(b) states that water banking may be used to transfer water rights to and from the Trust Water Right Program.

## INVESTIGATION

The water right change investigation was conducted by Kurt Walker, Ecology Permit Writer. A site investigation was made on September 8, 2009, and was attended by Joseph Morrice of Aspect Consulting. Additional information regarding the use of water was obtained through:

- Documentation submitted by the applicant, their consultants, and their attorney including:
  - Project overview Memorandum by Aspect Consulting dated June 1, 2009.
  - Technical Memorandum regarding Evapotranspiration by Aspect Consulting dated July 29, 2009.
  - Power records.
- Conversations with:
  - Bernard Henshaw.
  - Joseph Morrice.
  - Timothy Flynn.
  - Lisa Pelly.
- Review of digitized topographic maps and aerial photographs.
- Yakima County Superior Court *Reports of Referee* on the Yakima River Basin Water Rights Adjudication for Subbasin No. 5 (Elk Heights).

## **History of Water Use**

Court Claim No. 00365 of the Acquavella Adjudication is appurtenant to the Henshaw property. Under Court Claim No. 00365, Mr. Henshaw is authorized to use water from the Younger Ditch which flows approximately one and a half miles from a diversion on the Yakima River to the subject property. Water diverted under the Henshaw right is pumped from two separate locations and is used to serve two primary irrigation systems; one north of the ditch and one south of the ditch. In the fall of 2005, Mr. Henshaw sold a portion of his land which was previously irrigated through the North system. Mr. Henshaw included 6.5 ac-ft/yr of consumptive use as part of the land sale. The 2005 irrigation season represents the highest irrigation use (57.7 acres) in the last five years and will be relied upon for making a tentative determination of the extent and validity of the right. This amount will be reduced by 6.5 ac-ft/yr to account for the sale of water in 2005.

See Attached Map (Attachment 1) for POU and POD locations.

The Henshaw irrigation system is composed of the North and South irrigation systems, movable big guns, and domestic irrigation. The North and South irrigation systems were used to irrigate roughly 45 acres (see detailed description below). Tripod mounted big guns are reported to be used on approximately 10 acres of land which do not have permanent delivery lines. The two domestic residences irrigate approximately two acres total with a variety of small sprinklers.



The North system delivers water to approximately 29 acres of irrigated alfalfa. The delivery system consisted of four wheel lines with 4-inch-diameter irrigation and conveyance pipe. The wheel lines were constructed with 40-foot pipe sections, with one impact sprinkler (5/32" or 9/64" nozzle size, depending on soil drainage) per section. A total of about 50 impact sprinklers are associated with these wheel lines. The North system also includes a number of higher capacity sprinklers, with a reported flow rate of 30 gallons per minute (gpm). The North system is served by a single 15 HP centrifugal pump (reported capacity of 400 gpm) with a dedicated power drop which is located on the western property boundary.

The South system delivers water to approximately 16 acres of irrigated pasture and alfalfa. The South system consists of a single wheel line with 4-inch-diameter irrigation and conveyance pipe, big gun sprinklers, and solid set impact sprinklers. The wheel line is constructed with thirty-two 40-foot pipe sections, with one impact sprinkler (9/32", 5/32", or 9/64" nozzle size, depending on soil drainage) per section. The nozzle size of the big guns is up to 0.8". The South can be served by either a 10 HP or 15 HP centrifugal pumps (maximum reported capacity of 400 gpm) which are located near the eastern property boundary.

Mr. Henshaw raises cattle on the property, and they drink directly from Younger Ditch or a small pond which is open to the ditch. The cattle drink from troughs filled with well water when the ditch is not in operation.

Ecology can change a water right to the extent which it has been put to beneficial use (RCW 90.03.380), so long as no period of five successive years of non-use has occurred without sufficient cause (RCW 90.14.140-180). Pursuant to the Conditional Final Order dated February 8, 2001 for Subbasin 5 of the Acquavella Adjudication, Court Claim No. 00365 was confirmed a right to divert up to 1.5 cfs and 450 ac-ft/yr for the irrigation of 75 acres, and 0.02 cfs and 3 acre-feet for stock water. However, the greatest water use within the last five years (2005) amounted to less than the full court award. The two pump stations can deliver the full authorized instantaneous quantity (1.5 cfs), and 2005 power records show that approximately 178 acre-feet of water was pumped for the purpose of irrigation. The sale of water in 2005 of 6.5 acre-feet of consumptive use equates to approximately 8.8 ac-ft/yr of annual use. 8.8 acre-feet equates to approximately 2.8 acres of irrigation under this right (see Table 2).

Table 2
Water Use associated with Irrigation

Water Use	Total Use (acre-feet)	Consumptive Use (acre-feet)	Irrigation (acres)	
Use in 2005	178.0	131.0	57.7	
Sold in 2005	8.8	6.5	2.8	
Change to Trust	120.9	89.0	39.2	
Remaining in Irrigation	48.1	35.5	15.5	

An estimate of stock water use is based on a water demand requirement listed in the Washington State Department of Health Water System Design Manual (DOH, 2001). The listed stock water requirement for cattle is 12 gallons per days per head. Based on 40 cattle for a period of use from April 20 through September 30 (164 days), the annual stock water use is estimated at 0.24 ac-ft/yr. As a result, Ecology recognizes 1.5 cfs and 169.2 ac-ft/yr for the irrigation of 54.9 acres, and 0.02 cfs and 0.24 ac-ft/yr for stock water as the extent of the right and as the quantities available for change.

#### **Proposed Use**

The applicant proposes to change a portion of Court Claim No. 00365 to trust for the purposes of instream flow and water banking in order to offset the consumptive use associated with new groundwater uses.

## Other Rights Appurtenant to the Place of Use

A review of Ecology's records and database did not reveal any other rights or claims which are appurtenant to the Henshaw property.

#### **Trust Water Right Calculations**

Water used for irrigation is not constantly diverted over the irrigation period. Water use often begins at a lower rate during the beginning of the growing season, ramps up during the warmer part of the season and decreases again in the later part of the season. Irrigation may also be interrupted while moving sprinklers, or to dry and harvest crops.

In the absence of direct water use records, Ecology uses various methods to estimate the amount of water used and consumed. One source of information frequently use by Ecology is the Washington Irrigation Guide (WIG). The WIG data show the estimated average amount of water required by the crop or crop irrigation requirement (CIR) in addition to the existing moisture in the root zone under average climatic conditions. The WIG is currently being updated by Washington State University (WSU) to include additional climatic stations and up to date estimates of evapotranspiration (ET). For purposes of this change application, CIR values for alfalfa in the Cle Elum area were calculated using the American Society of Civil Engineers (ASCE) Penman-Monteith method and available climate data. The ASCE Penman-Monteith method is one of the methods currently being used by WSU to estimate monthly CIR values.

Ecology's Guidance Document GUID 1210, *Determining Irrigation Efficiency and Consumptive Use*, was used to determine irrigation efficiency (Ea) and consumptive use (CU). The CIR was estimated at 23.55 inches (1.96 ac-ft/yr) using the ASCE Penman-Monteith and local climatic data. Given the local growing conditions and main method of application, impact sprinklers on a wheel line, evaporative losses are estimated at ten percent of the total irrigation requirement (TIR). TIR is assumed to equal the 2005 estimated use value of 178 acre-feet. Applying these values to the equation  $CU = [(TIR \times Evap) + CIR]$ , the CU associated with the irrigation of 57.7 acres equates to 131.0 ac-ft/yr.

In 2005, Mr. Henshaw sold 6.5 ac-ft/yr of consumptive use from Court Claim No. 00365. Of the 124.5 acre-feet of consumptive use remaining from the irrigation portion of the right, 89.0 acre-feet is proposed to be changed while 35.5 acre-feet will remain in irrigation.

The CU for the portion of Court Claim No. 00365 being placed into the State Trust Water Right Program (TWRP) is shown on Table 3 in instantaneous and annual quantities by month. The portion of used water which is not consumed is considered to be return flow.

Instream Flow in **Table 3**Secondary Reach

, and a second s								
	May	June	July	August	Sept.	Total		
Avg. Qi (cfs)	0.02	0.29	0.47	0.41	0.28			
Qa (acre-feet)	1.4	17.2	28.7	25.2	16.5	89.0		

## Water Not Placed in Trust

The remaining portion of Court Claim No. 00365 which has not been sold and is not placed in trust will continue to be exercised within the court awarded season of use and POU. Considering the 2005 CU and irrigated acres listed above, 131 acre-feet and 57.7 acres respectively, Mr. Henshaw will be able to irrigate 15.5 acres total after the change (see Equation 1). The maximum annual diversion (Qa) is limited to 48.1 acre-feet (see Equation 2). The maximum instantaneous rate of diversion (Qi) is limited to 0.83 cfs for irrigation. This amount equates to the remainder of the amount necessary to satisfy the average Qi associated with the peak TIR related to the water use placed in trust (see Equation 3). In addition to irrigation, Mr. Henshaw is authorized to divert 0.02 cfs and 0.24 ac-ft/yr for of stock water.

## Equation 1. Remaining Consumptive Use and Irrigation

131 acre-feet  $\div$  57.7 acres = 2.3 acre-feet per acre

Thus,

CU = 35.5 acre-feet  $\div 2.3$  acre-feet per acre = 15.5 acres

## Equation 2. Maximum Qa

178 acre-feet  $\div$  57.7 acres = 3.1 acre-feet per acre

Thus,

Qa = 3.1 acre-feet per acre x 15.5 acres = 48.1 ac-ft/yr

## Equation 3. Maximum Qi

Peak TIR by month is July (41.3 acre-feet)
31 days in July
1 cfs = 1.9834 acre-feet per day

Results in,

Avg. Qi to meet peak TIR = 41.3 acre-feet  $\div$  31 days  $\div$  1.9834 acre-feet per day = 0.67 cfs Thus.

Qi = 1.5 cfs - 0.67 cfs = 0.83 cfs

#### Trust Water Place of Use

Ecology typically manages its trust water rights by defining a primary and a secondary reach. The primary reach is the length of the river between the historic point of diversion and where any of the water diverted, but not consumed, returns to the river. The secondary reach begins at the downstream end of the primary reach and is defined as that length of river which benefits from a reduction in consumptive use.

However, this water right is being changed from irrigation to instream flow and water banking. As such, this trust water right will serve as mitigation for new water rights from surface water sources and/or sources hydraulically related to the Yakima River. These new appropriations will be water budget neutral with respect to the "total water supply available," but the trusting of this right will not derive a specific reach benefit eligible for protection after the new appropriations are authorized.

### **Trust Water Management**

Court Claim No. 00365 is being changed to instream flow and water banking. As a condition of placing this water right into the TRWP, the consumptive portion of water placed into trust may be available as mitigation to address the issue of impairment with respect to new out-of-priority water rights consistent with WAC 173-539A.

## **Impairment Considerations**

Under RCW 90.38.040(5)(a), a trust water right may be exercised only if Ecology first determines that the authorization will not impair or injure any other water right. An attempt was made to identify any third parties who may be potentially affected by an approval of this application. Ecology sent a notice containing pertinent information to all appropriate state agencies, potentially affected local governments and federally recognized tribal governments, and other interested parties. Ecology did not receive any comments regarding the issue of impairment from any third party.

#### **Public Interest Considerations**

When investigating a change application, Ecology is required to consider whether the change is detrimental to the public interests. Ecology must consider how the change will affect an array of factors such as wildlife habitat, recreation, water quality, and human health. The environmental amenities and values associated with the area were taken into account during the consideration of this change application.

## **Consideration of Protests and Comments**

No protest or comments were received for consideration.

#### CONCLUSIONS

Court Claim No. 00365 is appurtenant to the subject property. The author makes a tentative determination that Court Claim No. 00365 represents a valid right to divert water from the Yakima River in quantities up to 1.5 cfs and 169.24 acre-feet for the irrigation of 54.9 acres, and 0.02 cfs and 0.24 acre-feet for stock water, both from April 20 through September 30.

Approval of this water right change request as provisioned will not enlarge the water right or impair existing water rights.

#### RECOMMENDATIONS

Based on the above investigation and conclusions, I recommend the request for change to Court Claim No. 00365 be approved in the amounts and within the limitations listed below and subject to the provisions listed in the Report of Examination.

## **Trust Water Right Attributes**

## **Primary Reach\***

0.67 cfs (cfs), 120.9 ac-ft/yr for the purpose of instream flow and water banking from April 20 through September 30.

#### Secondary Reach\*

Table 2
Instream Flow in Secondary Reach

	May	June	July	August	Sept.	Total		
Avg. Qi (cfs)	0.02	0.29	0.47	0.41	0.28			
Qa (acre-feet)	1.4	17.2	28.7	25.2	16.5	89.0		

<sup>\*</sup>Only the portion of the right which is not being used as mitigation will be eligible for protection.

## **Attributes the Portion Not Placed in Trust**

0.83 cfs, 48.1 ac-ft/yr for the irrigation of 15.5 acres from April 20 to September 30.

0.02 cfs, 0.24 ac-ft/yr for stock water from April 20 to September 30.

#### **Point of Diversion**

750 feet south and 1,150 feet east from the north quarter corner of Section 35, T. 20 N., R. 15 E.W.M.

## Place of Use

S½S½ of Government Lot 3, Government Lot 4 and the SE¼SW¼ EXCEPT the SE¼SE¼SW¼, All in Section 30, T. 20 N., R. 16 E.W.M.

Report by:

Kurt Walker

Water Resources Program

Date

#### REFERENCES

- Morrice, J. and Flynn, T. 2009. Technical Memorandum regarding Calculation of Evapotranspiration Rates and Crop Irrigation Requirements, Project No. 070207.
- Morrice, J. and Flynn, T. 2009. Technical Memorandum regarding Current and Proposed Water Use Estimates Northland Resources, L.L.C. Development Projects, Project No. 070207.
- Natural Resources Conservation Service, 1997. Washington Irrigation Guide. Appendix B: Climatic Station for Consumptive Use (WA 210-VI-WAIG).
- United States Geologic Survey, 1995. Provisional data of Livestock (stock) water use, by County, for Washington 1995. Available on line at: <a href="http://wa.water.usgs.gov/data/wuse/main.cnty.95.txt">http://wa.water.usgs.gov/data/wuse/main.cnty.95.txt</a>
- State of Washington, Department of Ecology v. Acquavella, et al., Yakima County Superior Court Case No. 77-2-01484-5, Reports of Referee Subbasin No. 5 (Elk Heights).
- Washington State Department of Health, 2001. Water System Design Manual. Chapter 5, Water Demand Requirements. Available on line at: <a href="http://www.doh.wa.gov/ehp/dw/Publications/331-123.pdf">http://www.doh.wa.gov/ehp/dw/Publications/331-123.pdf</a>

